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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: 1BR-GLA1531

October 13, 2015

Tamara Van Dyck
Coordinator, Environmental Services
Defence Construction Canada
180 Kent St., 14th Floor
Ottawa, ON K1P 0B6
Email: Tamara.VanDyck@dcc-cdc.gc.ca

RE: NWB Renewal Licence No. 1BR-GLA1531

Dear Ms. Van Dyck:

Please find attached Licence No. 1BR-GLA1531 issued to Defence Construction Canada by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*. The terms and conditions of the attached Licence related to Water use and Waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then Water use and Waste disposal must cease, or the Licensee may be in contravention of the *Nunavut Land Claims Agreement* (NLCA) and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA). However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least **three (3) months** prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment. However, a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

The NWB recommends that the Licensee consult the comments received by interested persons

on issues identified. This information is attached for your consideration.¹

Sincerely,

Thomas Kabloona
Nunavut Water Board
Chair

TK/ce/ri

Enclosure:

Licence No. **1BR-GLA1531**

Comments: Kitikmeot Inuit Association
Aboriginal Affairs and Northern Development Canada

cc: Distribution – Kitikmeot

¹ Aboriginal Affairs and Northern Development Canada (AANDC), April 27, 2015; Kitikmeot Inuit Association, April 27, 2015.

DECISION

LICENCE NUMBER: 1BR-GLA1531

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated January 19, 2015, for the renewal and amendment of a Licence made by:

DEFENCE CONSTRUCTION CANADA

to allow for Post-Construction Monitoring Activities at the CAM-2 DEW Line site located on the south side of King William Island, approximately 75 kilometres west of the Hamlet of Gjoa Haven within the Kitikmeot Region, Nunavut, at the general geographical coordinates:

Latitude: 68° 40' N Longitude: 97° 49' W

DECISION

After having received confirmation from the Nunavut Planning Commission that the application was for a location within an area in which there is no valid Land Use Plan² and having undergone a Screening by the Nunavut Impact Review Board in accordance with Part 4 of the *Nunavut Land Claims Agreement* (NLCA)³, the NWB decided that the application could proceed through the regulatory process. In accordance with S.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA) and Article 13 of the *NLCA*, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *NLCA* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

Licence Number 1BR-GLA0815 is renewed as Licence No. 1BR-GLA1531 subject to the terms and conditions contained therein. (Motion #: 2015-B1-031)

SIGNED this 9th day of October 2015 at Gjoa Haven, NU.

Thomas Kabloona
Nunavut Water Board
Chair

TK/ce/ri

² Nunavut Planning Commission Land Use Conformity Determination, dated March 31, 2015.

³ Nunavut Impact Review Board, Application Exempt from the Requirement for Screening pursuant to Section 12.4.3 of the NCLA, April 16, 2015.

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I. BACKGROUND

The former CAM-2 Gladman Point, Distant Early Warning (DEW) Line Site is located on the south side of King William Island approximately 75 km West of Gjoa Haven, and 300 km east of Cambridge Bay in the Kitikmeot Region, Nunavut, within the general latitude 68° 40'N and general longitude 97° 49'W.

CAM-2 was converted to a short range radar (SRR) site in the early 1990's and underwent remediation and decommissioning between 2003 and 2005, under NWB Water Licence No. NWB5GLA0308. Remediation and decommissioning activities involved construction, operation and remediation of a camp, a Non-hazardous Waste Landfill (NHWL), a landfarm facility for petroleum impacted soils and a Tier II disposal facility; road construction and repair, remediation of historical landfills, barrel and debris consolidation, blasting, demolition of infrastructure no longer required for the operation of the short range radar site, general site clean-up, and baseline soil and Water sampling.

Post-construction landfill monitoring at the site began in 2006, and in 2008, approval for Waste disposal and long-term monitoring activities associated with the landfill areas was renewed by the NWB under Water Licence No. 1BR-GLA0815.

The purpose of the current amendment and renewal application is to continue post-construction landfill monitoring of the following five landfill areas:

- Non-hazardous Waste Landfill;
- Tier II Soil Disposal Facility;
- Station Landfill;
- West Landfill – North; and
- West Landfill – South.

The objective of the landfill monitoring program is to collect sufficient information to assess the performance of the landfills from a geotechnical and environmental perspective. The document *Defence Construction Canada (DCC) Landfill Monitoring Program, CAM-2 Gladman Point DEW Line Site* (2008) defines the visual, chemical and thermal parameters of the monitoring program.

The Licensee has indicated that the continued implementation of the three-phase landfill monitoring program be undertaken in accordance with any renewed licence issued for the project. Phase I Monitoring occurred on an annual basis from 2006-2010, and established baseline monitoring parameters verifying that the thermal and chemical conditions on-site had reached equilibrium. Phase II Monitoring, under which the undertaking currently exists, involves monitoring events in 2012, 2015, 2020 and 2030. After Phase II the necessity for additional long-term monitoring will be assessed, and if required, an additional set of monitoring events will be scheduled under Phase III Monitoring, likely set at ten-year intervals.

All monitoring results will be reviewed by the Environmental Working Group (EWG),

established under the *DND-NTI Agreement*⁴ (1998) to provide technical support to the Steering Committee, and recommendations will be provided to the Department of National Defence concerning the stability and chemical equilibrium of the landfills. Decisions on whether to continue or terminate the monitoring program after Phase II Monitoring will be made following an assessment of performance carried out jointly by the Department of National Defence (DND) and the Nunavut Tunngavik Incorporated (NTI).

The undertaking will require the establishment of a small camp (5-8 people), for a duration of 3-4 days per monitoring event. Potable Water for these activities will be carried in from an approved source, and the only deposit of Waste generation expected is Sewage to a sump.

II. PROCEDURAL HISTORY

File History

On **June 20, 2001**, the Nunavut Water Board (NWB) issued Licence NWB5GLA0101, which allowed for Water use and Waste disposal associated with a site-remediation investigation. The Licence expired on October 31, 2001, at which point no renewal application had been received by the NWB.

On **April 1, 2003**, the NWB issued Licence NWB5GLA0308, which allowed for Water use and Waste disposal associated with the remediation of the CAM-2 Site. The Licence expired on April 30, 2008, while a licence renewal and amendment application had been submitted to the Board on February 15, 2008.

On **November 5, 2008**, the NWB issued Licence 1BR-GLA0815, which allowed for Waste disposal activities associated with long-term landfill monitoring at the CAM-2 Site. The Licence was set to expire on October 30, 2015.

Current Application

The Nunavut Water Board (NWB or Board) received an application and supporting information for the renewal of Licence 1BR-GLA0815 on January 19, 2015, from Defence Construction Canada (DCC) on behalf of the Department of National Defence (DND). Defence Construction Canada (DCC) is managing the cleanup and monitoring programs on behalf of DND. The application included the following documents:

- Cover letter, dated January 15, 2015;
- Application for Water Licence Amendment dated January 19, 2015;
- Executive Summary, English and Inuktitut;
- Spill Contingency Plan, dated as effective June 2015;

⁴ *Agreement Between Nunavut Tunngavik Incorporated and Her Majesty in the Right of Canada as Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites Within the Nunavut Settlement Area (1998).*

- Landfill Monitoring Program, dated February 2008;
- DND/NTI Cooperation Agreement;
- CAM-2, Gladman Point Drawings (CAM-2.1, CAM-2.2, CAM-2.3, CAM-2.4, CAM-2.5, CAM-2.5a, CAM-2.6);
- Camp Questionnaire; and
- NIRB Decision, dated March 3, 2003.

Following a preliminary technical review of the application, the NWB distributed the application on March 26, 2015, for a thirty (30) day public review period, during which comments were received from Aboriginal Affairs and Northern Development Canada (AANDC) and the Kitikmeot Inuit Association (KIA). The KIA indicated it had no comments on the file, while AANDC provided comments with respect to the Water source, drilling activities and the term of licence; however, no objections were expressed by the interveners, in principle, about any potential board decision that would result in issuance of a renewal Licence.

Also at this time, and after obtaining confirmation from the Nunavut Planning Commission (NPC) that the undertaking is outside of an area with an approved Land Use Plan, the Nunavut Impact Review Board (NIRB) informed the NWB on April 16, 2015, that the application was exempt from the requirement for screening pursuant to Section 12.4.3 of the *Nunavut Land Claim Agreement (NLCA)*.

On April 30, 2015, the NWB notified the Licensee of a number of outstanding pieces of information identified during the NWB's internal technical review, which the Licensee was required to submit under Licence No. 1BR-GLA0815, namely, an addendum to the Licensee's Monitoring Plan and information related to the close-out of the site following the end of remediation activities. On August 18, 2015, the Licensee responded to these inquiries with the submission of the following documents to the NWB:

- CAM-2, Gladman Point DEW Line Site Monitoring Plan—Addendum, dated July 2015;
- Sewage Lagoon Close Out Report, dated July 2015;
- Site Close Out Report, dated July 2015; and
- Quality Assurance / Quality Control Procedures for Analysis, dated July 2015.

Based upon the results of the detailed assessment of the Application, including consideration of any potential accidents, malfunctions, or impacts to Water that the overall project might have in the area, the Board has approved the Application and has renewed Licence No. 1BR-GLA0815 as Licence No. 1BR-GLA1531.

III. GENERAL CONSIDERATIONS

The following sections provide background information relevant to terms and conditions included in this Licence in the context of submissions received and/or the Board's rationale. It should be noted that under this renewal-amendment Licence No. 1BR-GLA1531, the Board has removed or modified, where appropriate, terms and conditions associated with the previous licence.

Term of Licence

In accordance with Section 45 of the Act, the NWB may issue a licence for a term not exceeding twenty-five (25) years. The Applicant has requested a twenty-five (25) year renewal Licence under which it plans to conduct visual, soil, groundwater and thermal monitoring during a number of monitoring events at the CAM-2 Site. In its review of the Application, AANDC supported the request for a twenty-five (25) year licence term. In determining an appropriate term for a Water licence the Board considers a number of factors, including the compliance record of the Applicant and the risk to Water resources posed by the undertaking. The Licensee has demonstrated a strong compliance record since the initial licence was issued in 2001, and the NWB's review of landfill monitoring data collected by the Licensee thus far produced no alarming environmental or geotechnical indicators. Saying this, the NWB finds this time period to be excessive given that the scope of the monitoring program remains undefined following the end of Phase II Monitoring in 2030, and as such, the Board has issued a licence term of sixteen (16) years, during which the Applicant may complete Phase II monitoring, assess the results, and determine the characteristics of a Phase III Monitoring Program if the NTI and DND determine that extended monitoring is required.

Annual Report

Long-term monitoring at the CAM-2 Site involves intermittent monitoring events often separated by a number of years, as described in the *Agreement between Nunavut Tunngavik Incorporated and Her Majesty in the Right of Canada as Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area*. The Board does not require a comprehensive Annual Report from the Licensee during non-active years; however, in place of an Annual Report the Licensee shall continue to provide written notification to the Board indicating what activity, if any, occurred at the site for the given year. These conditions are reflected in the Licence under Part B.

This information is kept in the NWB's public registry and made available to interested persons upon request. In addition, the NWB maintains reporting information on its FTP site, which can be accessed using the following link: <ftp.nwb-oen.ca>

Water Use

Water use requirements are estimated in the Application as less than one (1) cubic metre per day for the sole purpose of obtaining groundwater samples. The Application indicates that Water needed for camp and domestic purposes will be sourced from the Hamlet of Gjoa, and as such, will not fall under the scope of this licence. Accordingly, the current Licence authorizes the use of Water for the purpose of groundwater sampling to a maximum of one (1) cubic metre per day.

Waste Disposal

The Application lists Sewage as the only Waste type expected as a result of the undertaking, which will be deposited to a pit-toilet onsite and buried at the end of Monitoring activities. All

other Waste types will be disposed of in an approved Waste disposal facility. Conditions for Waste disposal have been included under Part D of the Licence.

A Close-out Report for the former sewage lagoon was submitted as additional information with the Application, to fulfil obligations outstanding from Part D, Item 1, of Licence No. 1BR-GLA0815. Although the Report contained certain deficiencies, such as an admission that no as-built drawings or Effluent sampling results were available for the sewage lagoon (as effluent seeped into the underlying substrate), the Board found it to be generally acceptable and does not believe that the issue requires further follow-up.

Drilling

The long-term monitoring program does not require drilling activities, and therefore the Board has removed conditions for drilling from the Licence.

Spill Contingency Planning

The Board has approved the *Spill Contingency Plan*, dated as effective June 2015, included as additional information with the Application.

Abandonment and Restoration

To fulfill Part J, Item 1, of Licence No. 1BR-GLA0815, the Licensee submitted the *Site Close Out Report* (2015) as additional information with the Application. The Report summarizes the reclamation activities that occurred between 2003 and 2005, and states that final remediation of CAM-2 was completed by the end of summer 2005.

The Licensee initiated the post-construction monitoring program in 2006 and plans to continue doing so for a period of 25 years. The Licensee is required to remove all equipment and any facilities associated with the monitoring events upon the cessation of the long-term monitoring program.

Monitoring

The Licensee shall conduct its monitoring activities in accordance with the *Landfill Monitoring Program, Water Use Application, CAM-2, Gladman Point DEW Line Site (2008)* (Monitoring Program) and the requirements of the *DND-NTI Agreement*, both submitted as additional information with the Application. Phase I monitoring occurred from 2006-2010, and continued under Phase II Monitoring which encompasses monitoring events in 2012, 2015, 2020 and 2030. The NWB has extended the licence term to one year after the last Phase II monitoring event to allow the Licensee time to consolidate, assess and respond appropriately to the accumulated results of Phase I and Phase II monitoring. As stipulated in Section 2.5 of the *Landfill Monitoring Program*, it is understood that the decision to conduct further monitoring past the year 2030 will rest on the conclusions of a performance assessment to be completed jointly by the NTI and DND, which will evaluate Phase I and Phase II monitoring data from an environmental, geotechnical and thermal perspective. Rather than impose evaluation criteria of

its own, the NWB has included conditions within the Licence for the submission to the Board for review of the DND-NTI Assessment Report before the end of the licence term. Also, the Board requires that before the end of the licence term, DND inform the Board in writing of any new agreement negotiated between DND and NTI related to further monitoring of the landfills, as mentioned in s.28.3 of the *DND-NTI Agreement*.

The Licensee submitted an addendum to the Monitoring Program entitled *CAM-2 Gladman Point DEW Line Site Monitoring Plan—Addendum*, dated July 2015, which generally meets the request for additional information on the former landfarm facility and several of the landfills, as described under Part K, Item 2 of Licence No. 1BR-GLA0815. The Addendum has been included as part of the Monitoring Plan in this Licence.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

DEFENCE CONSTRUCTION CANADA

(Licensee)

180 KENT ST., 14TH FLOOR, OTTAWA, ON K1P 0B6

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use Water or dispose of Waste for a period subject to restrictions and conditions contained within this Licence renewal:

Licence Number/Type: 1BR-GLA1531 TYPE "B"

Water Management Area: KING WILLIAM ISLAND WATERSHED (41)

Project/Location: KITIKMEOT REGION, NUNAVUT

Classification: INDUSTRIAL UNDERTAKING

Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

Quantity of Water use not
to Exceed: ONE (1) CUBIC METRE PER DAY

Date of Licence Issuance: October 13, 2015

Expiry of Licence: October 12, 2031

This Licence, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Thomas Kabloona
Nunavut Water Board, Chair

PART A: PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. **Scope**

- a. This Licence allows for Water use and Waste Disposal associated to the implementation of a long-term Monitoring Program, for an undertaking classified as Industrial as per Schedule I of the *Regulations* at the CAM-2 (Gladman Point) DEW Line site located approximately 75 kilometres west of Gjoa Haven, within the Kitikmeot Region, Nunavut.
- b. This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. **Definitions**

“**Act**” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Addendum**” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report or plan;

“**Amendment**” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

“**Analyst**” means an Analyst designated by the Minister under Section 85 (1) of the *Act*;

“**Application**” means the application for amendment and renewal of Licence No. 1BR-GLA0815, received by the Board January 19, 2015;

“**Appurtenant Undertaking**” means an undertaking in relation to which a use of Waters or a deposit of Waste is permitted by a licence issued by the Board;

“Board” means the Nunavut Water Board established under the *Nunavut Land Claims Agreement*;

“Effluent” means treated or untreated liquid Waste material that is discharged into the environment from a structure such as a settling pond or following a treatment process;

“Engineer” means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act, s. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

“Environmental Working Group” means the group established to provide technical support to the Steering Committee comprised of qualified engineering and environmental scientists with expertise in environmental remediation and clean up in northern climates as described in the document entitled *“Defence Construction Canada Landfill Monitoring Program Water Use Application CAM-2, Gladman Point DEW Line Site”* dated February 2008.

“Final Discharge Point” means the point at which the Licensee no longer exerts care and/or control over the quality and/or quantity of the effluent from a treatment process;

“Grab Sample” means a single Water or wastewater sample taken at a time and place representative of the total discharge;

“Greywater” means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Wastes;

“Hazardous Waste” means Waste classified as “hazardous” by Nunavut Territorial or Federal Legislation, or as “dangerous goods” under the *Transportation of Dangerous Goods Act* at the time of clean-up;

“High Water Mark” means the usual or average level to which a body of Water rises at its highest point and remains for sufficient time so as to change the characteristics of the land;

“Inspector” means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

“Landfarm Facility” means an area designed to biologically treat Type B contaminated soils;

“Licensee” means the individual or organization to which 1BR-GLA1531 Type “B” is issued or assigned;

“Modification” means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“Monitoring Program” means the monitoring program established to collect data on surface Water and groundwater quality as well as ground temperature to assess impacts to the environment of the appurtenant undertaking as described in *Defence Construction Canada Landfill Monitoring Program Water Use License Application CAM-2, Gladman Point DEW Line Site*, dated February 2008;

“Non-Hazardous Waste Landfill” means the landfill located 200 metres southeast of the station area, constructed for the disposal of non-hazardous Waste and Type A hydrocarbon contaminated soil collected during site cleanup, as described in *Defence Construction Canada Landfill Monitoring Program Water Use Licence Application CAM-2, Gladman Point DEW Line Site*, dated February 2008;

“Nunavut Land Claims Agreement” (NLCA) means the “*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*”, including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“NTI Agreement” means the *Agreement Between Nunavut Tunngavik Incorporated and Her Majesty the Queen in the Right of Canada, as Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area-Environmental Provisions*” including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“Regulations” means the *Nunavut Waters Regulations SOR/2013-69 18th April, 2013*;

“Sewage” means all toilet Wastes and Greywater;

“Sewage Disposal Facility” comprises the decommissioned two-cell lagoon designed to contain and treat sewage as described in the Application for Water Licence filed by the Licensee on December 20, 2002;

“Solid Waste Disposal Facilities” comprises the area and associated structures designed to contain solid Waste and to permanently isolate the contents of the disposal facility from the environment as described in the Application for Water Licence filed by the Licensee on December 20, 2002;

“Spill Contingency Plan” means the Spill Contingency Plan, dated as effective June 2015, included as additional information with the Application;

“Station Landfill” means the existing landfill, located approximately 100 metres northwest of the main station area, as described in the document entitled *Landfill Monitoring Program, Water Use License Application, CAM-2, Gladman Point DEW Line Site*, dated February 2008;

“Steering Committee” means the Steering Committee described in the *Agreement between Nunavut Tunngavik Incorporated and Her Majesty in the Right of Canada as*

Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area dated September 1, 1998, to monitor progress, develop recommendations and suggest alternative solutions for achieving the commitments set forth in the Agreement;

“Sump” means an excavation in impermeable soil for the purpose of catching or storing Water or Waste;

“Tier I Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier I in Appendix E of the *Agreement Between Nunavut Tunngavik Incorporated and Her Majesty the Queen in the Right of Canada, as Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area-Environmental Provisions* including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“Tier II Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier II in Appendix E of the *Agreement Between Nunavut Tunngavik Incorporated and Her Majesty the Queen in the Right of Canada, as Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area-Environmental Provisions* including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“Tier II Disposal Facility” means the engineered containment landfill built in the northwest corner of the former station area, approximately 50 m south of the existing Station Area Landfill, designed to contain Tier II Soil, as described in *Defence Construction Canada Landfill Monitoring Program Water Use Licence Application CAM-2, Gladman Point DEW Line Site*, dated February 2008;

“Type A Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of lubricating oil and grease (F3 – F4 Fractions);

“Type B Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and/or diesel fuel and/or gasoline (F1 – F2 Fractions);

“Toilet Wastes” means all human excreta and associated products, but does not include greywater;

“Waste” means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in Water, would have the effect of altering the quality of any Water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any Water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

“Waste Disposal Facilities” means all facilities designated for the disposal of Waste, and includes the Sewage Disposal Facilities, Solid Waste Disposal Facilities, and Landfarm Facility, as described in the Application for Water Licence filed by the Applicant on December 20, 2002;

“Water” or “Waters” means Waters as defined in section 4 of the Act.

“West Landfill – North” means the existing landfill located 1 km northwest of the module train, as described in the document entitled “Landfill Monitoring Program, Water Use License Application, CAM-2, Gladman Point DEW Line Site”, dated February 2008; and

“West Landfill – South” means the existing landfill located 700 metres northwest of the module train, as described in the document entitled “Landfill Monitoring Program, Water Use License Application, CAM-2, Gladman Point DEW Line Site”, dated February 2008.

3. **Enforcement**

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- c. For the purpose of enforcing this Licence and with respect to the use of Water and deposit or discharge of Waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file a Monitoring Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, according to the monitoring schedule presented in *Defence Construction Canada Landfill Monitoring Program Water Use Licence Application FOX-M, Hall Beach DEW Line Site*. The Report shall contain the following information:
 - a. A summary report of Water use and Waste disposal activities;
 - b. A summary of any construction work, modification and major maintenance work (including as-built diagrams) carried out on Solid Waste Disposal Facilities;
 - c. Tabular summaries for all data and information generated under the Monitoring Program;
 - d. An analysis of data collected during the Monitoring Program and a brief description of any future studies planned by the Licensee;
 - e. The results of any review conducted by the Environmental Working Group and

- any recommendations regarding any changes to the Monitoring Plan and/or remediation requirements;
 - f. A summary of remediation work undertaken during the year and an outline of work anticipated for the following year;
 - g. A summary of any studies requested by the Board that relate to Waste disposal, Water use or reclamation, and a brief description of any future studies planned;
 - h. A list of unauthorized discharges and summary of follow-up actions taken;
 - i. Any revisions to the remediation plan;
 - j. Any updates or revisions for manuals and plans as required by changes in operation and/or technology;
 - k. If applicable, a description of any trenches and sumps excavated, including but not limited to the following: GPS coordinates, dimensions, depth below active layer and secondary containment features;
 - l. A brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;
 - m. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence; and
 - n. Any other details on Water use or Waste disposal requested by the Board by November 1st of the year being reported.
2. In years where no monitoring event occurs, pursuant to Part B, Item 1, the Licensee shall file a written notice with the Board, informing that no monitoring event took place for the given year, and/or also indicating what activities did take place (including licence site inspections and responses to those inspections, reports filed, updated plans, etc.). This written notice shall be submitted no later than March 31st of the year following the calendar year being reported.
 3. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with the appurtenant undertaking at least thirty (30) days prior to any such change.
 4. The Licensee shall comply with the Monitoring Program described in this Licence, and any amendments to the Monitoring Program as may be made from time to time, pursuant to the conditions of this Licence.
 5. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.
 6. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
 7. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

8. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
9. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
10. The Licensee shall post signs in the appropriate areas to identify the stations of the Monitoring Program and to inform the public of the location of the buried landfills and Monitoring Program Stations. All signage postings shall be in the Official Languages of Nunavut.
11. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:
 - (a) **Manager of Licensing:**
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nwb-oen.ca
 - (b) **Inspector Contact:**
Manager of Field Operations, AANDC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445
12. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
13. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
14. This Licence is assignable as provided in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The volume of Water for the purpose of groundwater sampling shall not exceed one (1) cubic metre per day.
2. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body.
3. The Licensee shall implement measures to prevent the deposition of dust and/or sediment into Water arising from contractor activities or on-site vehicular traffic.
4. Equipment used should be well cleaned and free of oil and grease and maintained free of fluid leaks. The Licensee shall ensure that pollutants from machinery used during construction do not enter Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for Waste disposal including all monitoring well pump-out Water at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any Water body, such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee shall contain all Sewage in sumps or use incineration, chemical, portable or composting toilets. Sumps shall be located at a distance of at least thirty one (31) metres above the ordinary High Water Mark of any Water body and covered with native material to achieve the pre-existing natural contours of the land prior to abandonment.
3. The Licensee shall not practice on-site land filling of domestic Waste that will impact groundwater, unless otherwise approved by the Board in writing.
4. The Licensee shall backhaul and dispose of all hazardous wastes, Waste oil and non-combustible Waste generated through the course of the operation at a licensed Waste disposal site.

PART E: CONDITIONS APPLYING TO THE UNDERTAKING

1. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and immediately undertake any corrective measures in the event of any impacts on surface drainage.
2. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
3. The Licensee shall minimize disturbance to terrain, permafrost and drainage during movement of contractor's equipment and personnel around the site during post closure monitoring activities.
4. All sites affected by sampling activities shall be stabilized, landscaped as necessary, and

suitable erosion control measures implemented to minimize sediment deposition into watercourses located on or adjacent to the site.

5. The Licensee shall implement proper handling, storage and transportation procedures for hazardous materials to prevent entry to any Water body.

PART F: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including immediate banks except what is for immediate use.
2. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
3. The Licensee shall not mobilize heavy equipment or vehicles unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.

PART G: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. No drilling activities are permitted under this Licence.

PART H: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a. the Licensee has notified the Board and Inspector in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - d. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans

and drawings shall be stamped by an Engineer.

PART I: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved with the issuance of this Licence the plan entitled *Spill Contingency Plan*, received by the NWB with the Application on January 19, 2015.
2. The Licensee shall submit together with the 2015 Annual Report, an Addendum to the Plan referred to in Part I, Item 1, in the format set out by *the Consolidation of Spill Contingency Planning and Reporting Regulations, R-068-93*, that addresses or includes the following:
 - a. A detailed topographic map depicting project site and nearby Water bodies;
 - b. A copy of the NT-NU spill report form; and
 - c. Date Plan is effective from, and date the Plan expires.
3. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other Waste and contain potential spills.
4. If during the term of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the Spill Contingency Plan;
 - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to AANDC's Manager of Field Operations at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.
5. The Licensee shall, in addition to Part I, Item 4, regardless of the quantity of release of harmful substances, report to the NWT/NTU Spill Line if the release is near or into a Water body.

PART J: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, material and equipment at the close of each monitoring event.
2. Upon completion of work, all disturbed areas shall be scarified, stabilized and restored as practically as possible to a pre-disturbed state.
3. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of

Nunavut's *Environmental Guideline for Contaminated Site Remediation*, 2009. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

PART K: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall undertake long-term monitoring activities as defined in the approved *Defence Construction Canada Landfill Monitoring Program Water Use Licence Application CAM-2, Gladman Point DEW Line Site* dated February 2008, and *CAM-2 Gladman Point DEW Line Site Monitoring Plan—Addendum*, dated July 2015, and any amendments to the Plans as approved by the Board.
2. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by an accredited laboratory, certified by the Canadian Association of Environmental Analytical Laboratories (CAEAL).
3. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
4. The Licensee shall include in the Annual Report in accordance with Part B, Item 1, tabular summaries for all data and information generated under the Monitoring Program, as well as an analysis of these data.
5. The Licensee shall review the Quality Assurance/Quality Control Plan (QA/QC) and the *Defence Construction Canada Landfill Monitoring Program Water Use Licence Application CAM-2, Gladman Point DEW Line Site* for changes in operation and/or technology and modify the Plans accordingly. The revisions to the QA/QC Plan and the *Defence Construction Canada Landfill Monitoring Program Water Use Licence Application CAM-2, Gladman Point DEW Line Site* are to be submitted in the form of an addendum to be included with the Annual Report, unless directed otherwise by the Board.
6. The Licensee shall submit a written summary of the DND-NTI Assessment of Satisfactory Performance Report, reviewing the Phase I and Phase II monitoring results, and as mentioned in s. 2.5 of the *Canada Landfill Monitoring Program Water Use Licence Application CAM-2, Gladman Point DEW Line Site*, to the Board for review at least sixty (60) days prior to the end of the licence term. The Summary Report shall indicate any new monitoring agreement or the intention for any new monitoring agreement between NTI and DND, which may affect the characteristics or duration of the monitoring schedule defined under the Monitoring Program.
7. Additional monitoring requirements may be imposed by the Inspector.